Data Analytics in Professional Sports Annotated Bibliography

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Grow, Nathaniel. "Free Agency for the Front Office: How Data Analytics and Noncompete Agreements Threaten to Disrupt Competitive Balance in U.S. Professional Sports Leagues." *American business law journal* 58.1 (2021): 121–162. Web.

Grow examines the effect of data analysis on competition in American professional sports leagues. His argument is that greater application of data-driven decision-making, and restraint on noncompete contracts, tilts the league competition advantage in the favor of a team. His research examines how front office policy informed by analytics is changing the acquisition of talent and overall management of a team.

Alamar, Ben. *Sports Analytics: A Guide for Coaches, Managers, and Other Decision Makers*. New York: Columbia University Press, 2013. Web.

Alamar offers an operational handbook to the incorporation of analytics into management and coaching decision-making. His work explains how statistical models can assist teams in achieving optimal performance and outpacing competition. The author emphasizes the process of transforming raw data into insightful information that will determine game strategy and player evaluation.

Herberger, Tim A et al. "The Impact of Big Data and Sports Analytics on Professional Football: A Systematic Literature Review." *Digitalization, Digital Transformation and Sustainability in the Global Economy*. Switzerland: Springer International Publishing AG, 2021. 147–171. Web.

This is a critical evaluation of the way analytics and big data are revolutionizing football in today's world. Authors examine the effect of various analytical tools on improving player performance, avoiding injuries, and game day strategy. The study uncovers new trends in data collection and analysis that are revolutionizing football analytics.

Fried, Gil, and Ceyda Mumcu. *Sport Analytics: A Data-Driven Approach to Sport Business and Management*. First edition. United Kingdom: Routledge, 2016. Web.

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Fried and Mumcu present a business plan for sports analytics, showing the revenue streams, fan engagement, and sponsorship approach impacted by data-driven decision making. The book provides genuine uses of analytics used within professional sporting clubs for ticketing, marketing, and financial management.

Jayal, Ambikesh, Giles Oatley, and Allistair McRobert. *Sports Analytics: Analysis, Visualisation and Decision Making in Sports Performance*. 1st ed. United Kingdom: Routledge, 2018. Web.

The book describes how performance data is collected, computed, and reported to maximize athletic performance. Authors say something regarding the use of technology in sports analytics, but mainly on live game action process. The book is a manual for teams and analysts seeking to improve their methodology towards data interpretation.

Knobbe, Arno et al. "Sports Analytics for Professional Speed Skating." *Data mining and knowledge discovery* 31.6 (2017): 1872–1902. Web.

Knobbe and others discuss how data science is transforming speed skating. Predictive modeling, biomechanical assessment, and optimizing athletic performance at the sport are outlined. How the research uncovers teams use data to customize training programs and maximize effectiveness on the ice is captivating.

Baumer, Benjamin S, Gregory J Matthews, and Quang Nguyen. "Big Ideas in Sports Analytics and Statistical Tools for Their Investigation." *Wiley interdisciplinary reviews. Computational statistics* 15.6 (2023): e1612-. Web.

Baumer and co-authors simplify the most critical statistical techniques used in sports analytics. The book covers techniques such as machine learning, predictive modeling, and Bayesian analysis, all of which are critical in modern sports data analysis. The book is a requirement to study the technical part of sports analytics.

Schoenfeld, Bruce. *Game of Edges: The Analytics Revolution and the Future of Professional Sports*. W.W. Norton and Company, 2023. Print.

Schoenfeld analyzes the manner in which analytics transformed expert sports into different leagues. He shows how teams following data-driven play have an amount able advantage compared to their counterparts. The book addresses potential downsides and shortcomings of increased application of analytics in sports.

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Memmert, Daniel, and Dominik Raabe. *Data Analytics in Football: Positional Data Collection, Modelling and Analysis*. Second edition. Oxford: Routledge, 2024. Web.

Memmert and Raabe emphasize the use of positional data in football analysis. They present data collection and modeling approaches with focus on the contribution of tracking technology towards player development as well as tactical analysis. The book presents a complete analysis of football-specialized analytical approaches.

Pu, Zhiqiang et al. "Orientation and Decision-Making for Soccer Based on Sports Analytics and AI: A Systematic Review." *IEEE/CAA journal of automatica sinica* 11.1 (2024): 37–57. Web.

Pu et al. explain how artificial intelligence impacts decision-making in football. They examine the impact of analytics by AI on game preparation, scouting players, and adjusting the game strategy. The study finds growing use of automation in sports analytics.